

On page 15, at line 16 please insert the words "are disclosed" after the word "infrared". At line 14, please delete "003=420" and insert ---003420---.

On page 16, at line 23, please delete "amont of isotonic" and insert ---amount of isotonic---.

On page 18, line 3, please delete "Figure 6" and insert ---Figures 6A-6C---

On page 19, at line 29, please delete "first issue, we" and insert ---first tissue, we---.

### In the Claims

Please amend the claims as follows:

- Sub C1  
B1
15. (Amended) A Raman endoscope comprising:  
an endoscope having an optical fiber extending from a proximal end to a distal end;  
a focal plane array sensor at the distal end of the endoscope [to] that detects Raman scattered radiation directed onto the distal end of the endoscope;  
a laser optically connected to the optical fiber at the proximal end of the endoscope to irradiate an object to be imaged; and  
a computer memory device connected to the sensor for storing an electronic representation of the detected radiation.

Please insert the following new claims:

21. The Raman endoscope of Claim 15 further comprising a cooling system that cools the focal plane array sensor.

- B2  
Sub C2
22. A Raman endoscope comprising:  
an endoscope having an optical fiber extending from a proximal end to a distal end;

a focal plane array sensor at the distal end of the endoscope that detects Raman scattered radiation directed onto the distal end of the endoscope;

a filter system at the distal end of the endoscope that filters light directed onto the focal plane array sensor;

a laser optically connected to the optical fiber at the proximal end of the endoscope to irradiate an object to be imaged; and

$\beta^2$  an electronic memory connected to the sensor that stores an electronic representation of the detected radiation.

23. The Raman endoscope of Claim 22 further comprising an additional optical fiber to direct light from a broadband light source onto the object to be imaged.
24. The Raman endoscope of Claim 23 further comprising a detector to record a visible image of the object.
25. The Raman endoscope of Claim 22 further comprising a data processor and a comparator for comparing images at different wavelengths.
26. The Raman endoscope of Claim 22 further comprising an optical system on the distal end of the endoscope.
27. The Raman endoscope of Claim 22 wherein the filter system filters light directed onto the sensor such that the filter system selectively transmits light having one or more frequencies selected from the group consisting of  $700\text{ cm}^{-1}$ ,  $960\text{ cm}^{-1}$ ,  $1070\text{ cm}^{-1}$ ,  $1745\text{ cm}^{-1}$ ,  $1737\text{ cm}^{-1}$  and  $1440\text{ cm}^{-1}$ .
28. The Raman endoscope of Claim 22 wherein the filter system comprises an acousto-optic filter.

29. A method of endoscopic imaging comprising:
- providing a sensor array on a distal end of an endoscope, the endoscope having a fiber optic cable extending from a proximal end of the endoscope to the distal end, the proximal end of the fiber optic cable being optically coupled to a radiation source;
  - positioning the distal end of the endoscope adjacent to tissue to be examined;
  - irradiating a region of interest on the tissue with radiation from the radiation source that is delivered through the fiber optic cable;
  - sensing endogenous fluorescence or Raman scattered light returning to the distal end of the endoscope with the sensor array in response to the radiation;
  - generating an electronic representation of the region of interest with the sensor array; and
  - storing the representation in an electronic memory device.
30. The method of Claim 29 further comprising optically coupling a laser radiation source to the proximal end of the fiber optic cable.
31. The method of Claim 29 wherein the sensor array comprises an acousto-optic filter that is coupled to a focal plane array sensor.
32. The method of Claim 29 wherein the positioning step comprises inserting the distal end into a body lumen.
33. The method of Claim 29 further comprising forming an image of the region of interest.
34. The method of Claim 29 further comprising sensing radiation having a wavelength in the range of 1-2 microns.